

# Impact of Alcohol on Perinatal Outcomes

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- **Should pregnant women drink at all?**
- **Is there a safe or acceptable level of alcohol consumption for pregnant women?**

- **No level of alcohol use during pregnancy has been proven safe. Therefore, the March of Dimes Birth Defects Foundation recommends that pregnant women do not drink any alcohol — including beer, wine, wine coolers and hard liquor — throughout their pregnancy and while nursing. In addition, since women often do not know they are pregnant for several months, women who are attempting to become pregnant should abstain from alcoholic beverages.**

[www.marchofdimes.com](http://www.marchofdimes.com)

- **The Royal College of Obstetricians and Gynaecologists conducted a large study including 400,000 American women, all of whom had consumed alcohol during pregnancy. Not a single case of fetal alcohol syndrome occurred and no adverse effects on children were found when consumption was under 8.5 drinks per week.**
- **The guidelines of the Royal College of Obstetricians and Gynaecologists recommend that "women should be careful about alcohol consumption in pregnancy and limit this to no more than one standard drink per day."**

# Objectives

- Describe maternal, fetal and neonatal complications associated with perinatal substance abuse
- Understand the interrelationship among substance abuse , STIs, DV/IPV and health care utilization for pregnant women
- Discuss specific assessment tools that should be integrated into all programs that provide women's health services

# Healthy People 2010

## Goals:

- increase quality and years of healthy life lived
- eliminate health disparities
- 467 objectives are organized in 28 focus areas, each representing an important public health area
- Leading Health Indicators are intended to help everyone more easily understand the importance of health promotion and disease prevention and to encourage wide participation in improving health in this decade

[www. healthypeople.gov](http://www.healthypeople.gov)

# Perinatal Substance Exposure

**16-17. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women.**

Objective	Increase in Reported Abstinence in Past Month From Substance by Pregnant Women*	1996-97 Baseline Percent	2010 Target
16-17a	Alcohol	86	94
16-17b	Binge drinking	99	100
16-17c	Cigarette smoking <sup>γ</sup>	87	98
16-17d	Illicit drug	98	100

*\*Pregnant women aged 15 to 44 years.*

*<sup>γ</sup>Smoking during pregnancy for all women giving birth in 1997 in 46 States, the District of Columbia, and New York City.*

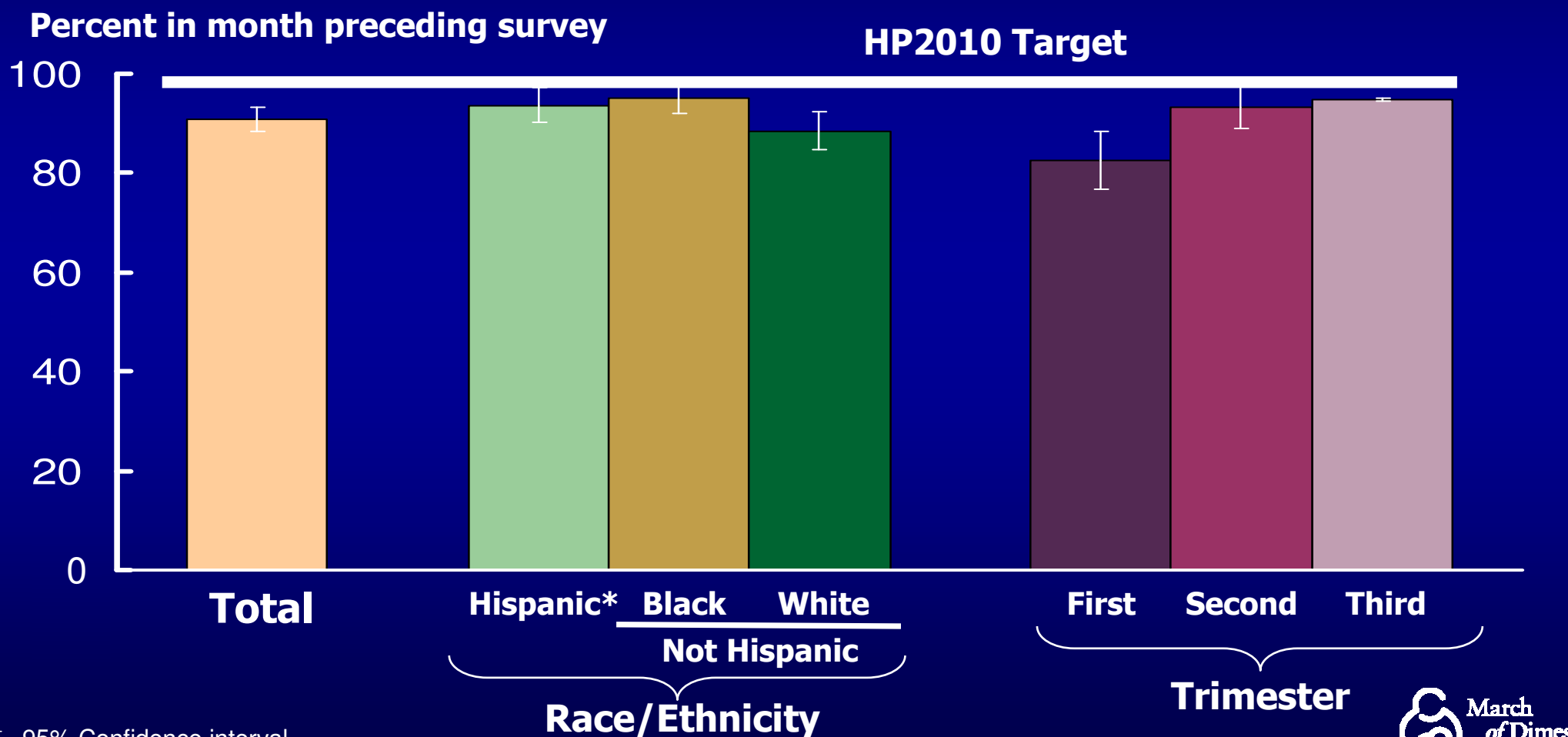
*Target setting method: Better than the best for 16-17a, and 16-17c; complete elimination for 16-17b and 16-17d.*

*Data sources: National Household Survey on Drug Abuse, SAMHSA for 16-17a, 16-17b, and 16-17d. National Vital Statistics system, CDC, NCHS for 16-17c.*



# Pregnant Women Abstaining from Alcohol by Race/Ethnicity and Trimester, 2002

HP2010 Obj. 16-17a



┆ 95% Confidence interval.  
Source: NSDUH, OAS, SAMHSA.

\* Persons of Hispanic origin may be of any race.



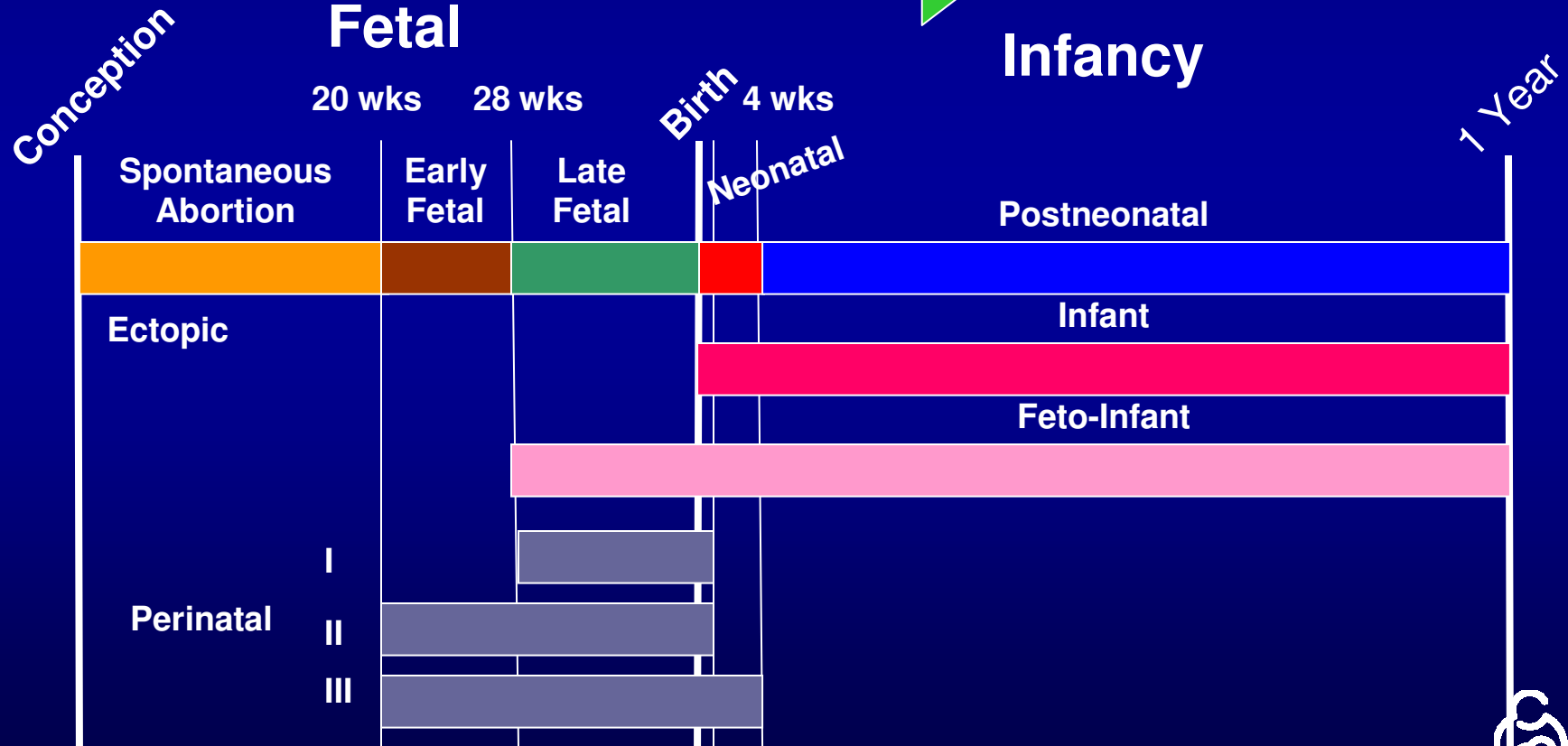


# Substance Use During Pregnancy

## HP2010 Developmental Objectives

- **(Developmental)** Reduce the birth prevalence of fetal alcohol syndrome.
  - Potential data source: CDC
- **(Developmental)** Reduce the number of birth defects caused by prenatal maternal exposure to prescription medications with a known teratogenic effect.
  - Potential data source: CDC

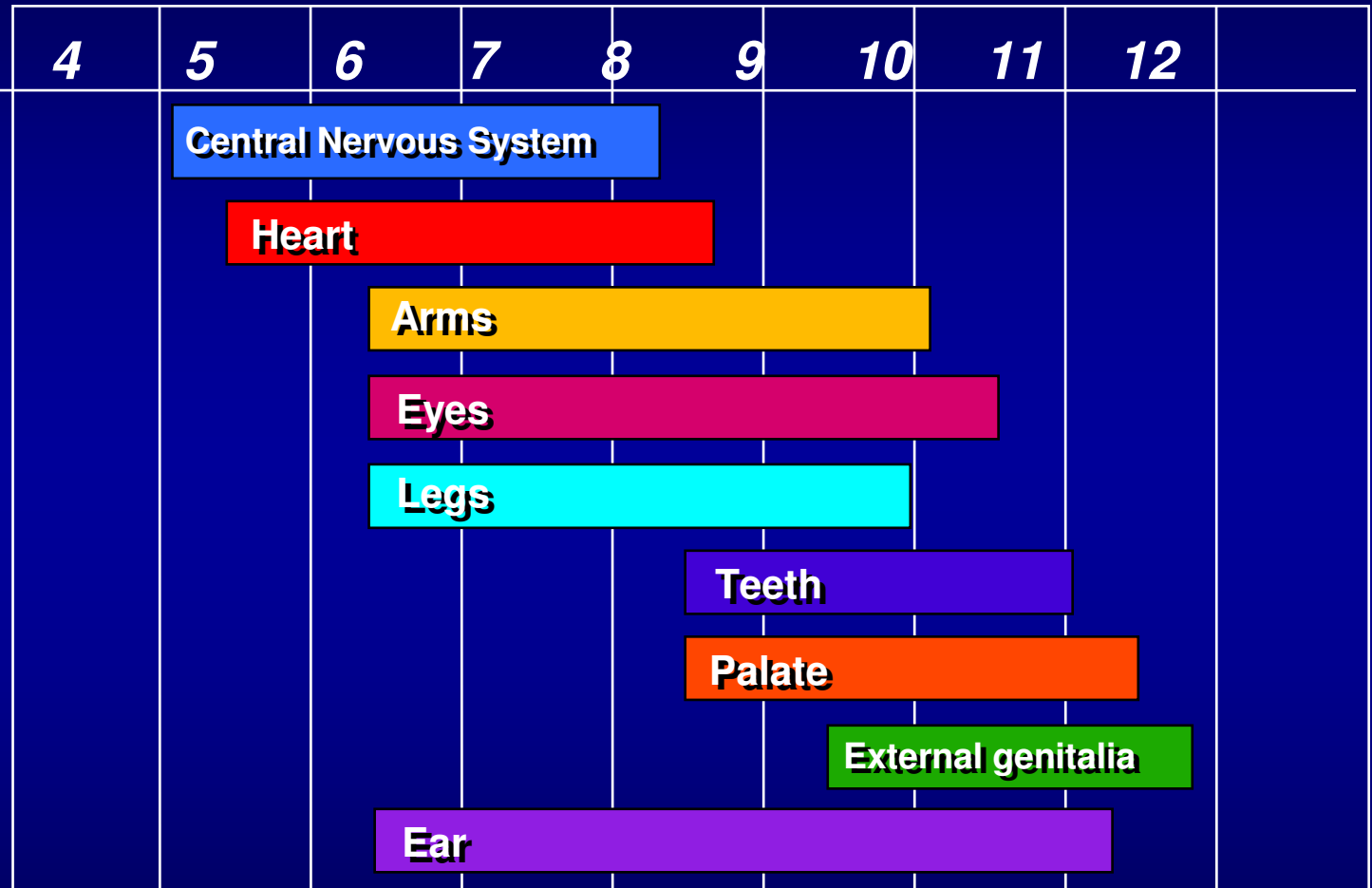
# Age at Loss



# Critical Periods of Development

*Weeks gestation  
from LMP*

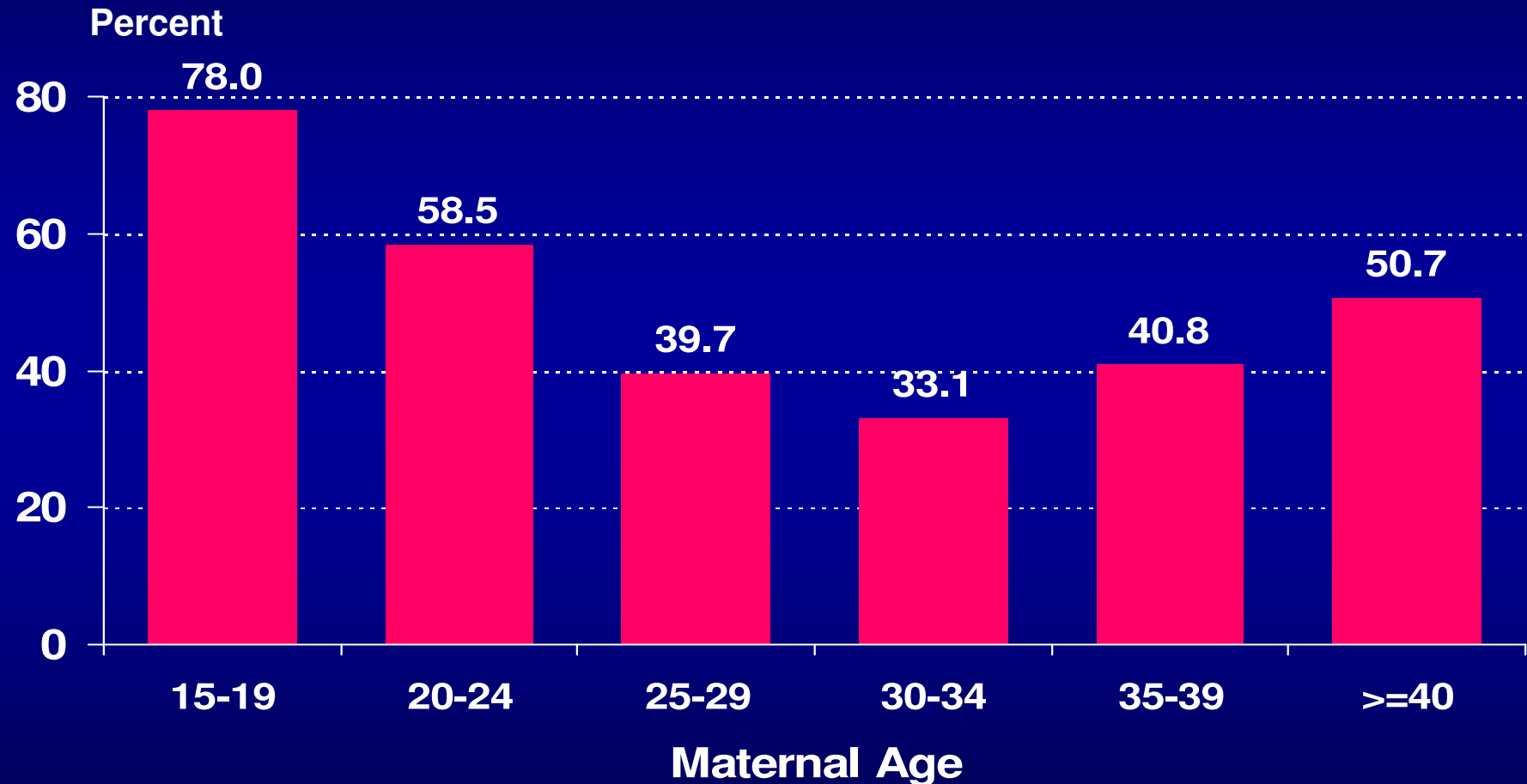
Most susceptible  
time for major  
malformation



Missed Period

Mean Entry into Prenatal Care

# Unintended Pregnancies United States, 1994



Source: National Survey of Family Growth, 1995  
Prepared by March of Dimes Perinatal Data Center, 2000



# Pre/Interconceptional Care

- Readiness for pregnancy (FP)
- Optimal management of any medical conditions (diabetes, HBP, asthma, infections, heart disease)
- Infections and STIs
- Immunizations up to date
- Family history, genetic counseling, carrier testing
- Substance abuse (smoking, alcohol, other drugs)
- Domestic violence (DV/IPV)
- Stress reduction
- Optimal weight and activity
- Good nutrition-- folic acid for men and women
- Avoid teratogens (work site, environment)
- Review all meds and home remedies with hcp

# Folic Acid Recommendations

## *Prevent Recurrence, 1991*

- All women with a previous NTD pregnancy should take 4 mg or 4000mcg interconceptionally

## *Prevent Occurrence, USPHS September, 1992*

- All women of childbearing potential should consume 0.4 mg (400 micrograms) of folic acid daily

## *Food & Nutrition Board of IOM, 1998*

- Men (14 yr & older) 400 µg any source
- Women (14 yr & older) 400 µg **synthetic** + food
- Pregnancy 600 µg **synthetic** + food
- Lactation 500 µg any source



# Conditions that Require More Folic Acid

- History of NTD affected pregnancy (4.0mg daily)
- History of NTD
- Diabetes
- Alcoholism, alcohol abuse
- Smoking
- Illicit drug use
- Obesity
- Absorption disorders
- Infection with HPV
- Some prescribed medications
- Some OTC (NSAIDs)

# **Substance Abuse and Reproductive Health Issues**

- **Polydrug use is common**
- **Substance abuse and domestic violence often overlap**
- **Women often use substances to cope with stress and/or depression; assess and intervene with primary causes**
- **Substances influence behavior and cognition**
- **Substances can impair a person's immune system, increase susceptibility to infections**
- **Pregnancy is a time of relative immune suppression**
- **Methamphetamines, amphetamines and nitrates may be linked to longer or particularly vigorous sexual activity which can lead to physical trauma and enhanced transmission of STIs including HIV**



# Interplay between Substance Abuse and Sexual Intercourse

- Survey (11/2001-1/2002) of 988 sexually active youth in US, 15-24 years
- About 25% said they had unprotected sex because they were using alcohol or drugs
- About 30% said they were concerned about STIs or pregnancy because of the sexual activity which using alcohol or drugs
- Those who used alcohol or drugs were 7 times more likely to have sex and twice as likely to have sex with 4 or more partners
- Almost 3/4 believe their peers often fail to use protection when they are under the influence of alcohol or drugs

*“Substance abuse and risky sexual behavior: Attitudes and practices among adolescents and young adults”, Kaiser Family Foundation Survey, Feb 2002*





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## MULTIMEDIA

### Alcohol and Drug Use Disorders, Sexually Transmitted Diseases, and Other Infectious Diseases

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**When:** 7/7/2004

**Sponsor:** CSAT

**Host:** [Ivette Torres](#), Associate Director for Consumer Affairs, Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS)

**Invited Panelists:** [Dr. Randy Pumphrey](#), Clinical Program Director, The Lamda Center (A Partnership of Whitman-Walker Clinic and The Psychiatric Institute of Washington); [Mickey Smith](#), Senior Staff Associate, Behavioral Health, National Association of Social Workers; [Debra Henderson](#), Syphilis Elimination Coordinator, Marion County Health Department; [Lorraine Al-Mahdi](#), Case Coordinator, Social Services/Case Manager, Nurture for Live 2, Apra/Community Action Group

**Program Abstract:** For individuals with alcohol and drug use disorders, the risk of contracting an infectious disease is vastly increased. Intravenous drug users (IDUs) and persons who engage in risky sex while under the influence are prime candidates for contracting infectious diseases. Many professionals in the public health, mental health, criminal justice, and substance abuse healthcare delivery systems are not adequately prepared, either through training or experience, to fully address the complex needs of substance-abusing patients infected with HIV/AIDS, STDs, tuberculosis, or viral hepatitis. This program will highlight progress in efforts to improve treatment for persons with co-existing alcohol and drug use disorders and infectious diseases and give critical insights into proven approaches for providing

## Brief Interventions Work

- Youth counseled about alcohol and other drugs when treated for trauma, a year later:
  - consumed on average 21 drinks fewer/week
  - 47% reduction in new injuries
  - 48% fewer hospitalizations
  - 23% fewer DUIs
- “Catching people at a teachable moment had a recognizable impact on behavior”

*Gentilello L. Annals of Surgery, 1999*

# **Substance Abuse is a Major Problem During Pregnancy**

- **5-10% of all pregnant women have substance abuse problems during pregnancy (alcohol, tobacco, cocaine, methamphetamine, heroin, marijuana, club drugs)**
- **Substance abuse contributes to obstetric and pediatric complications (eg miscarriage, fetal death, abruption, LBW, PTD, IUGR, birth defects, neurodevelopmental disorders)**
- **Pregnancy is a window of opportunity as 96% of women in the US are seen during their pregnancy**
- **Women are more likely to change their behavior during pregnancy than at any other time in their lives**
- **Treatment for substance abuse during pregnancy is significantly more effective than at other times in a woman's life**

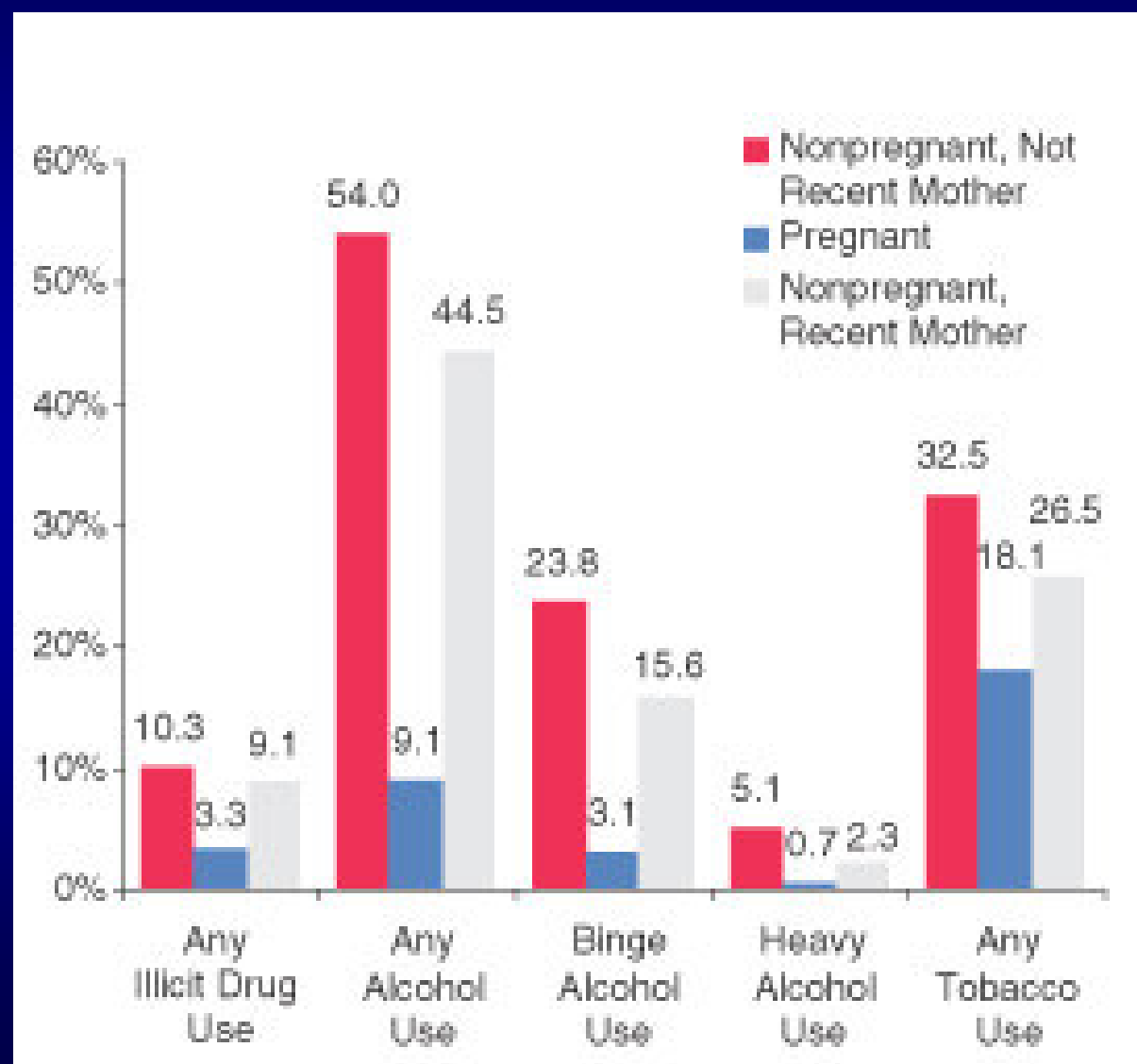
# **Pregnancy and Substance Use**

## **2002 National Survey on Drug Use and Health (NSDUH)**

**in the past month pregnant women aged 15 to 44 years:**

- 3% reported binge alcohol use**
- 17% reported smoking cigarettes**
- 3% reported illicit drug use**
- Pregnant women 15 to 25 years were more likely binge drink, smoke cigarettes and use illicit drugs and in the past month than those 26 to 44 years**
- Among pregnant women aged 15 to 44, whites were more likely to have smoked cigarettes in the past month than blacks or Hispanics**

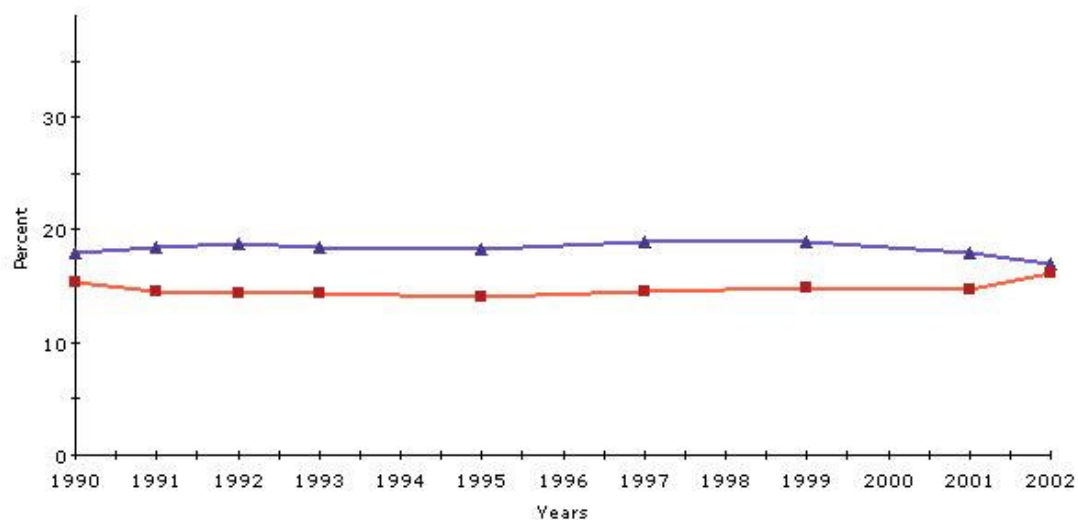
## Past Month Substance Use among Women Aged 15 to 44 by Pregnancy and Recent Motherhood Status, 2002



Source: SAMHSA  
2002 NSDUH  
[www.oas.samhsa.gov](http://www.oas.samhsa.gov)

### Alcohol Use: Binge Drinking Michigan vs. Nationwide

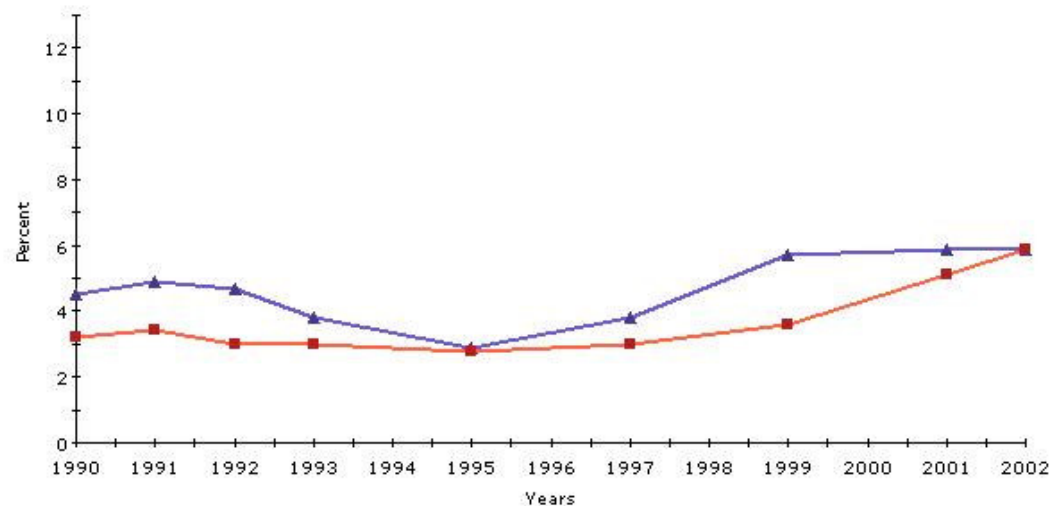
Michigan  
Nationwide



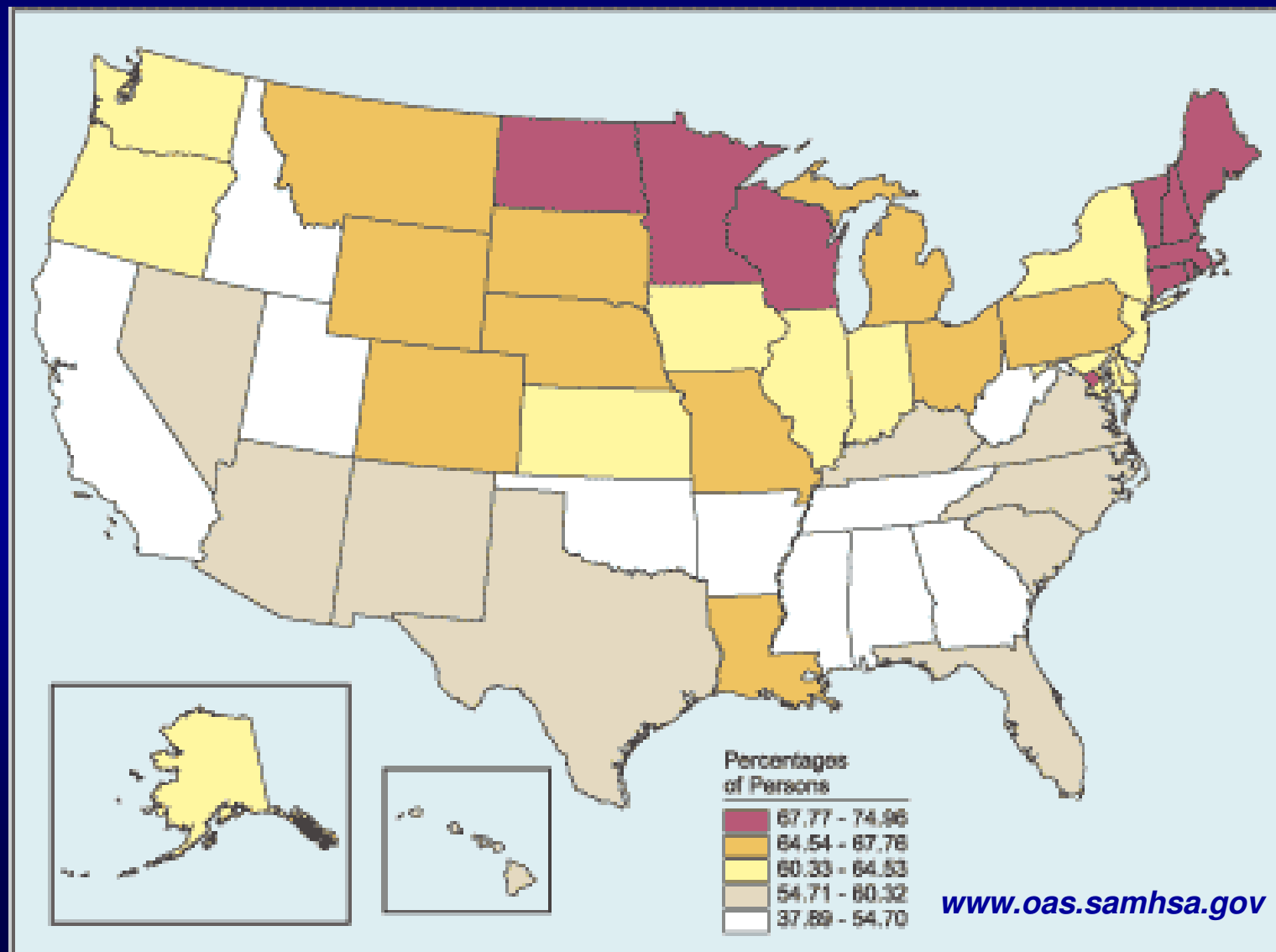
[www.cdc.gov/brfss](http://www.cdc.gov/brfss)

### Alcohol Use: Chronic Drinking Michigan vs. Nationwide

Michigan  
Nationwide



## Percentages Reporting Past Month Use of *Alcohol among Persons Aged 18 to 25*, by State: 2002



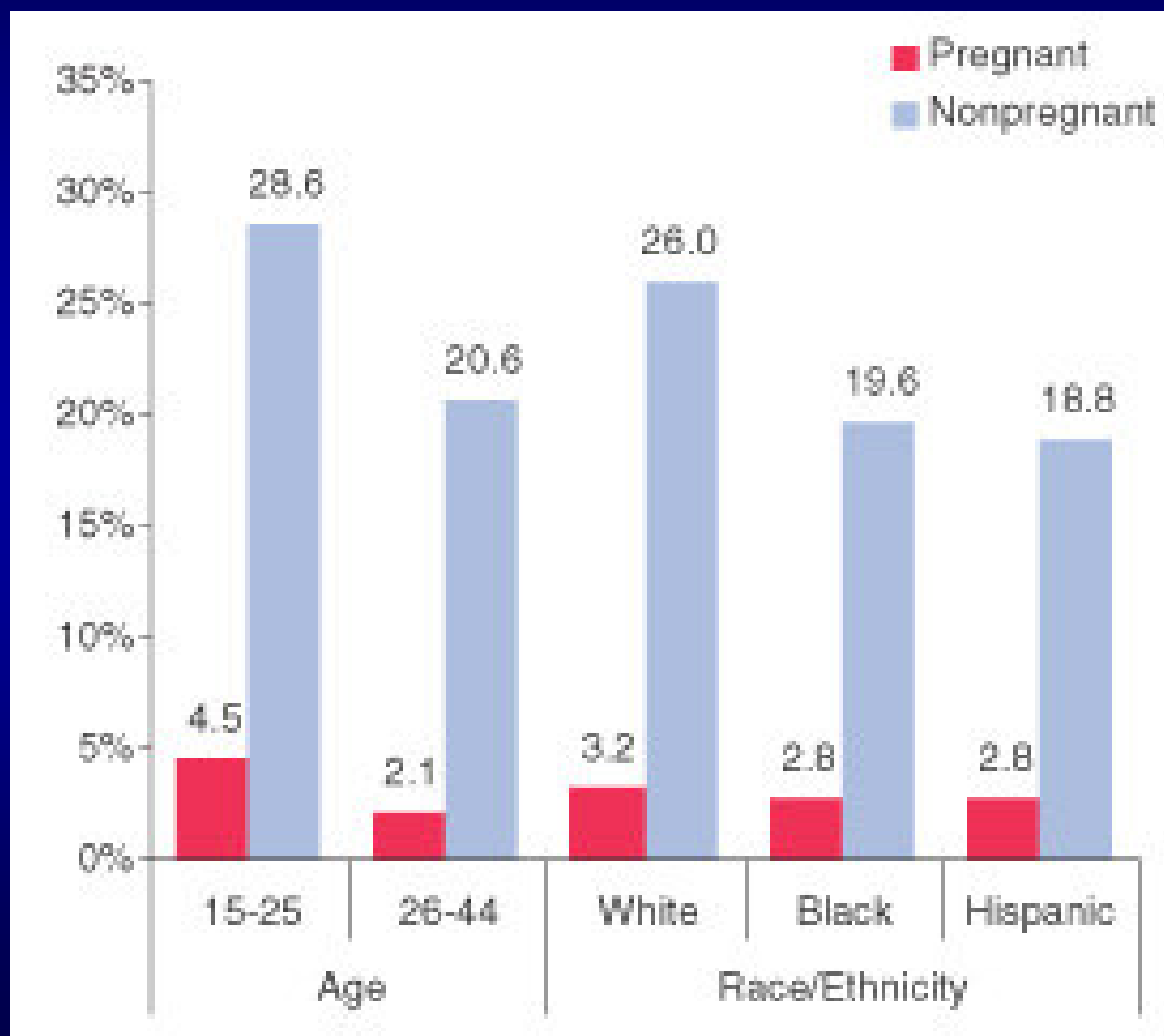


# Alcohol Use During Pregnancy

- No known safe level of use
- Affects the fetus during all 3 trimesters
- 20% of pregnant women drink alcohol
- 3.5% drink two or more drinks per day or five or more drinks per occasion
- Exposure estimate (U.S. 1995): 140,000 newborns exposed to potentially teratogenic doses
- FAS estimate: 0.5 - 3 children per 1000 live births



## Past Month Binge Drinking among Women Aged 15 to 44, by Pregnancy Status, Age, and Race/Ethnicity, 2002

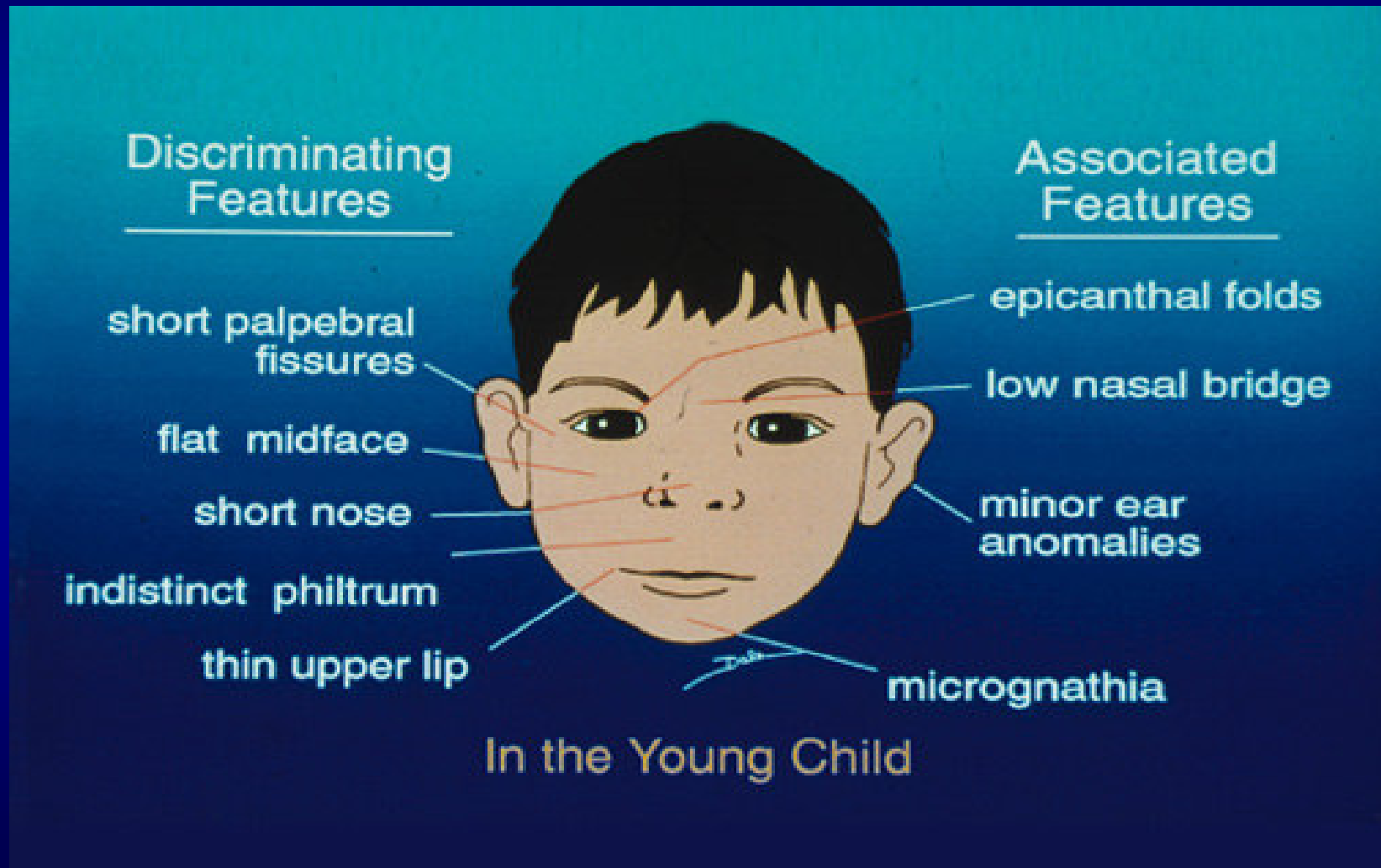


Source: SAMHSA  
2002 NSDUH  
[www.oas.samhsa.gov](http://www.oas.samhsa.gov)

# **Effects of Alcohol on Pregnancy Fetal Alcohol Spectrum Disorder (FASD)**

- **Miscarriage**
- **Premature birth**
- **Low birth weight**
- **FAS**
- **ARBD - Alcohol-Related Birth Defects**
- **ARND - Alcohol-Related Neurodevelopmental Disorders**
- **Birth complications**

# FAS Facial Features



# FAS Facial Malformation

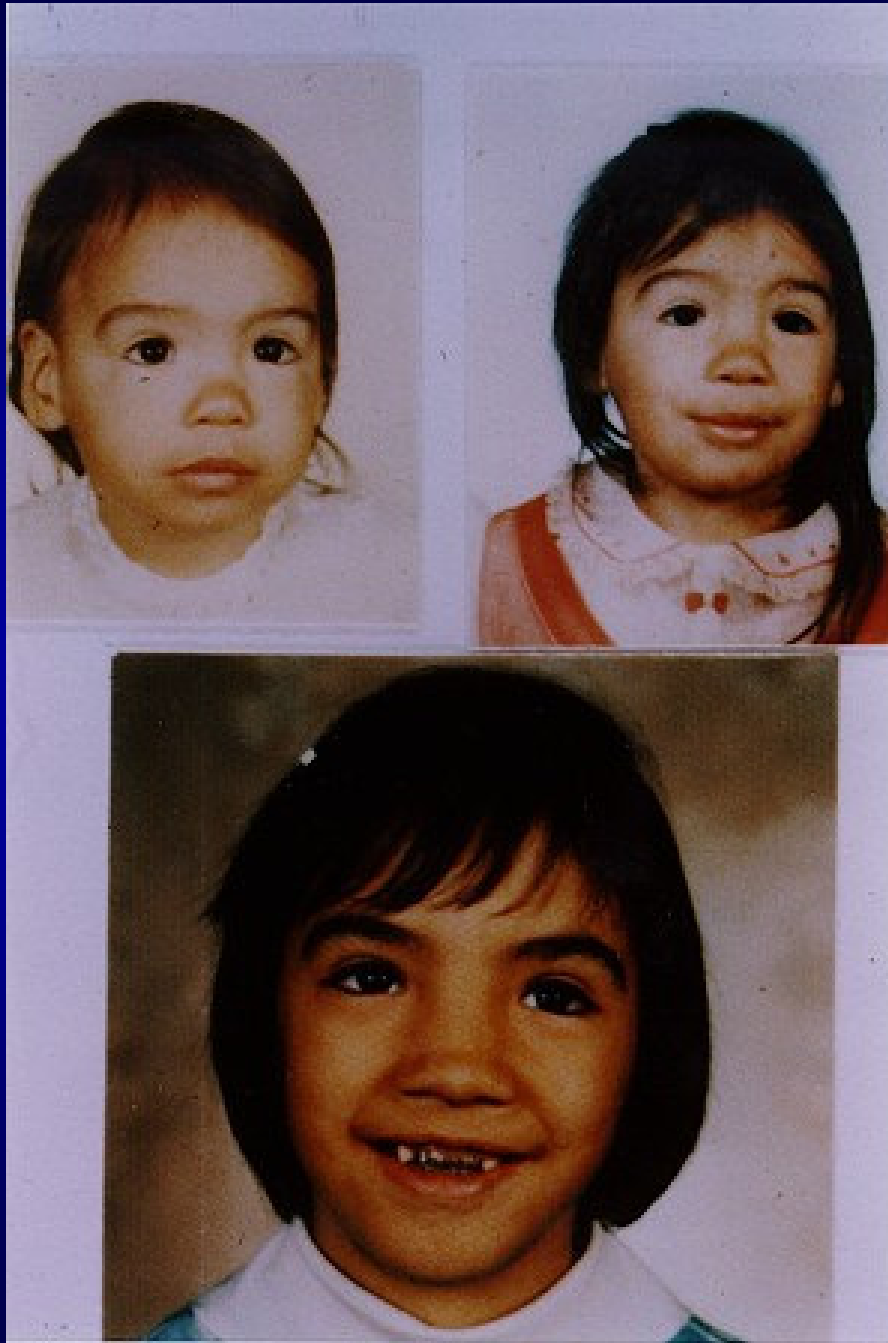
- Short palpebral fissures
- Thin upper lip
- Long, flat philtrum
- Hypoplastic midface



**midfacial zone in an 11-year-old boy to show the low nasal bridge, short palpebral fissures and epicanthic folds**

**Lower face demonstrating a broad, smooth philtrum with narrowing of the red margin of the upper lip and loss of the normal "cupid's bow" configuration. Nostrils are directed slightly forward, not straight down, indicating a slightly short nose.**





**Mosaic photo of the same girl at 2, 4, and 8 years, showing the progression of facial features over time. The facial features of FAS were best seen in this patient when she was 4 years old. Progressive growth begins to "normalize" the face in the picture at 8 years old.**